

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
25 January 2001 (25.01.2001)

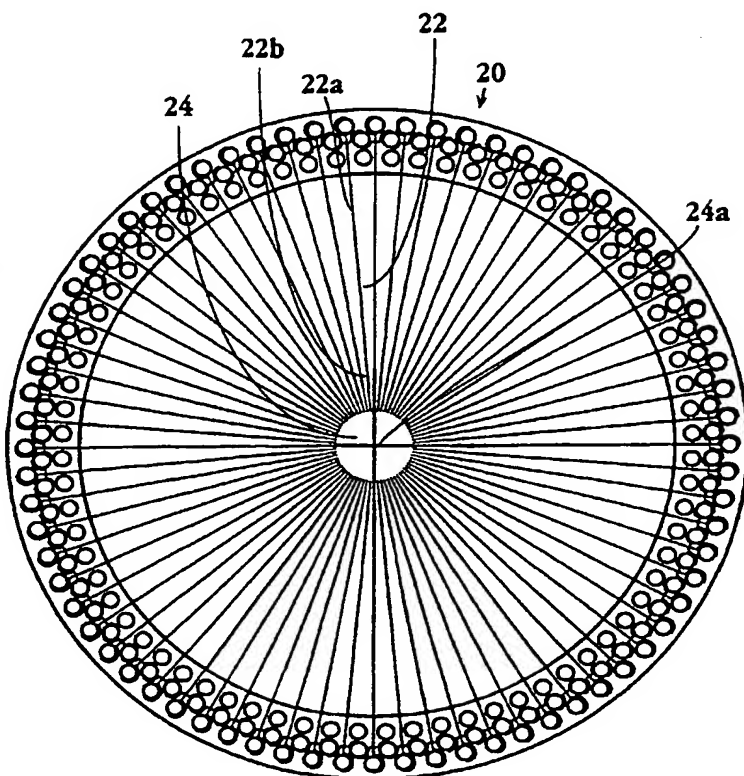
PCT

(10) International Publication Number
WO 01/06228 A3

- (51) International Patent Classification⁷: G01N 27/26, 27/447
- (21) International Application Number: PCT/US00/19265
- (22) International Filing Date: 14 July 2000 (14.07.2000)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 60/144,103 16 July 1999 (16.07.1999) US
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- (81) Designated States (*national*): AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: HIGH DENSITY ELECTROPHORESIS DEVICE AND METHOD



(57) Abstract: The apparatus comprises a disc-shaped substrate (20) defining a central reservoir (24), a plurality of coplanar electrophoretic channels (22) in fluid communication with, and emanating substantially radially from, the central reservoir (24), and each channel (22) having a proximal end (22a) which is linked to the central reservoir, and a distal end (22b), and preferably for each channel, at least one chamber, and preferably three chambers, linked by a passageway in fluid communication with the distal end of that channel. Preferably, each passageway leads from each chamber in a direction that is initially away from the central reservoir, whereby centrifugation of the substrate about a central axis that is perpendicular to the channels is effective to disperse liquid from the central reservoir into the chambers, channels, and passageways such that any air bubbles in the chambers, channels, and passageways are forced towards the axis of rotation, when such liquid is present in the central reservoir.

WO 01/06228 A3



Published:

— with international search report

(88) Date of publication of the international search report:

9 August 2001

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US00/19263

A. CLASSIFICATION OF SUBJECT MATTER														
IPC(7) : G01N 27/26, 27/447 US CL : 204/450,451,455,600,605 According to International Patent Classification (IPC) or to both national classification and IPC														
B. FIELDS SEARCHED														
Minimum documentation searched (classification system followed by classification symbols) U.S. : 204/450,451,455,600,605														
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched														
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) USPAT, EPOABS, JPOABS, DERWENT, CAPLUS search terms: electrophor\$8, disc, disk, circular, circle														
C. DOCUMENTS CONSIDERED TO BE RELEVANT														
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.												
X ----- Y	US 5,872,010 A (KARGER et al) 16 February 1999 see entire document, especially Fig. 1A & 3	1 - 6, 10, 11, 14, 15, 18-20, 23 ----- 10-15, 21, 22												
A	US 6,100,535 A (MATHIES et al) 08 August 2000	1-23												
A	US 6,126,804 A (ANDRESEN) 03 October 2000	1-23												
A	US 6,143,152 A (SIMPSON et al) 07 November 2000	1-23												
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.														
<table border="0"> <tr> <td>* Special categories of cited documents:</td> <td>*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</td> </tr> <tr> <td>*A* document defining the general state of the art which is not considered to be of particular relevance</td> <td>*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</td> </tr> <tr> <td>*E* earlier document published on or after the international filing date</td> <td>*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</td> </tr> <tr> <td>*L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</td> <td>*G* document member of the same patent family</td> </tr> <tr> <td>*O* document referring to an oral disclosure, use, exhibition or other means</td> <td></td> </tr> <tr> <td>*P* document published prior to the international filing date but later than the priority date claimed</td> <td></td> </tr> </table>			* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	*A* document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	*E* earlier document published on or after the international filing date	*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	*L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*G* document member of the same patent family	*O* document referring to an oral disclosure, use, exhibition or other means		*P* document published prior to the international filing date but later than the priority date claimed	
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P document published prior to the international filing date but later than the priority date claimed														
Date of the actual completion of the international search 11 FEBRUARY 2001		Date of mailing of the international search report 20 MAR 2001												
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230		Authorized officer JOHN S. STARSIAK JR. Jean Proctor Paralegal Specialist Telephone No. (703) 308-0661												